

The present invention discloses an interfacing apparatus and method for adapting Ethernet directly to physical channel, which encapsulates MAC frames into SDH/SONET SPE/VC using LAPS. The LAPS encapsulation consists of the start Flag Sequence, address field (SAPI, Service Access Point Identifier), control field (0x03), Information field (Ipv4, Ipv6, or PPP protocol data unit), FCS (Frame check sequence) and the ending Flag Sequence. The Flag Sequence (0x7E) identifies the beginning/end of a LAPS frame. The present invention can be used to provide Ethernet interface in telecom SDH/SONET transmission device or provide facilities to remote access datacom device, such as core and edge routers, switch devices, IP based network accessing equipment, line cards, and interfacing units used in high speed application, e.g. Gigabit applications. By simplification of SDH/SONET, i.e. using simplified SDH/SONET, Ethernet could be applied to DWDM.